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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 028,379	12/21/2001	David A. Christian	US010694	4870

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EXAMINER

TRAN, CHUC

ART UNIT PAPER NUMBER

2821

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,379

Applicant(s)

CHRISTIAN ET AL.

Examiner

Chuc D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7, 9-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-12, and 15-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Rodriguez-Cavazos (USP. 4,961,032).

Regarding claim 1, Rodriguez-Cavazos disclose a cathode ray tube convergence circuit comprising:

- a low voltage power supply ($+V_{\text{low}}$) (Fig. 2) (Col. 4, line 51-59);
- a high voltage power supply ($+V_{\text{high}}$) (Fig. 2) (Col. 4, Line 51-59); and
- a low-power dissipating switching network which switches (11, 13) between said low voltage power supply ($+V_{\text{low}}$, $-V_{\text{low}}$) (Col. 5, Line 3) and said high voltage power supply ($+V_{\text{high}}$, $-V_{\text{low}}$) (Col. 5, Line 36) relative to said high voltage power supply (Col. 6, Line 21-30) (Fig. 1).

Regarding claim 2 as recited in claim 1, wherein a power dissipation of said low-power switching network is in the range of approximately 25 Watts to approximately 50 Watts (Col. 2, line 32).

Regarding claim 3 as recited in claim 1, wherein the low voltage power supply operates between approximately 12v and approximately 24v (Col. 6, line 25).

Regarding claim 4 as recited in claim 1, further comprising a divided rail circuit (Fig. 1).

Regarding claim 5 as recited in claim 1, wherein said low voltage power supply drives a standard deflection yoke of a cathode ray tube (Abstract).

Regarding claim 6 as recited in claim 1, wherein said high-voltage power supply drives a convergence yoke during a retrace interval of a cathode ray tube (Col. 1, Line 62).

Regarding claim 7 as recited in claim 1, further comprising: an output stage (16) (Fig. 1) receiving a first power from one of said power supplies at a particular time, and a second power from the other of said power supplies does not traverse said switch network at said particular time (Col. 4, Line 51) (Col. 5, Line 3) (Col. 5, Line 33).

Regarding claim 9 as recited in claim 1, wherein said switching network includes transistors (Q3, Q6) and diodes (D1, D8) (Col. 6, Line 32) (Col. 6, Line 40).

Regarding claim 10 as recited in claim 1, wherein the convergence circuit drives convergence yokes of the cathode ray tube (Abstract).

Regarding claim 11 as recited in claim 1, further comprising: a voltage feedback circuit (22) to initiate said switching between said low voltage power supply and said high voltage power supply (Col. 4, Line 60-65).

Regarding claim 12, Rodriguez-Cavazor disclose a cathode ray tube convergence circuit, comprising:

- a positive polarity convergence circuits including a high positive voltage rail and a low positive voltage rail (Abstract) (Fig. 1);

- a negative polarity convergence circuit including a high negative voltage rail and a low negative voltage rail (Abstract) (Fig. 1); and

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- wherein said positive and negative polarity convergence circuits further include a switching network which operates relative to said high positive voltage rail and said high negative voltage rail (Col. 4, Line 51) (Col. 5, Line 3) (Col. 5, Line 36).

Regarding claim 15 as recited in claim 12, wherein said positive polarity convergence circuit outputs high and low positive voltages to deflection yokes of a cathode ray tube (Col. 4, line 51) (Col. 6, line 33-38) (Fig. 1).

Regarding claim 16 as recited in claim 15, wherein said negative polarity convergence circuit outputs high and low negative voltages to deflection yokes of a cathode ray tube (Col. 4, Line 51) (Col. 6, line 41-46) (Fig. 1).

Regarding claim 17 as recited in claim 12, wherein said positive polarity convergence circuit and said negative polarity convergence circuit constitute a boost-on-demand circuit (Col. 9, Line 45) (Fig. 1) which outputs a high voltage to drive at least one convergence yoke for a relatively short time duration (Col. 9, Line 51) so that output power is conserved (Col. 6, line 41-46).

Regarding claim 19. Rodriguez-Cavazor disclose a cathode ray tube convergence circuit, comprising:

- a polarity convergence circuit including a high voltage rail and a low voltage rail (Fig. 1);

- an output stage (16) connected to said polarity convergence circuit (Col. 4, Line 51) (Fig. 1); and

- a switching network switching the connection of said output stage to said polarity convergence circuit between said high voltage rail and said low voltage rail relative to said

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high voltage rail (Col. 5, Line 36).

Regarding claim 20 as recited in claim 19, wherein said switching network includes a transistor (Q3) having a control input coupled to said high voltage rail ($+V_{H1}$) (Col. 6, line 64) (Fig. 3).

Regarding 21 as recited in claim 19, further comprising: a voltage feedback (22) (Col. 4, line 60) controlling said switching network in switching the connection of said output stage to said first polarity convergence circuit between said high voltage rail and said low voltage rail relative to said high voltage rail (Col. 5, Line 33) (Fig. 1).

Regarding 22 as recited in claim 21, wherein said switching network includes a transistor (Q6) (Fig. 3) having a control input coupled to said high voltage rail (V_{H1}) (Col. 6, Line 64).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Rodriguez-Cavazos (USP. 4,961,032).

Regarding 18 as recited in claim 17, Rodriguez-Cavazor disclose a cathode ray tube convergence circuit set forth in the claims except the boost-on-demand circuit outputs a low voltage for approximately 75% of an operating time of a the cathode ray tube. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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provide the boost-on-demand circuit outputs a low voltage for approximately 75% of an operating time of a the cathode ray tube in order to reduce heat dissipation since it was known in the art (Col. 10, Line 65).

Allowable Subject Matter

5. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to appreciate the advantage offered by power saving supply for electronic convergence circuit with the following distinctive features such as set by of the claim. In particular, the art of record fails to teach or fairly suggest constructing switching network includes at least one field effect transistor which dissipates less than approximately 200mW of power posses all of the distinctive features such as defined by independent claim 1 to reduce power loss in the cathode ray tube.

Response to Arguments

7. Applicant's arguments filed 3/24/03 have been fully considered but they are not persuasive.

Applicants argue that Rodriquez-Cavazos fails to teach or suggest a high voltage rail ($+V_H$) and ($-V_H$) being coupled to the gate terminals of transistor Q3 and Q6. See specification at paragraphs [0115] and [0120]. However, these limitations are not recited in the claims. Applicants are reminded that it has been held that limitations from the specification will not be

imported or read into the claims. In re Priest, 582 F.2d 33, 37, 199 USPQ 11,15 (CCPA 1978).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D Tran whose telephone number is (703)306-5984. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703)308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

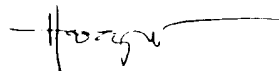
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TDC

May 21, 2003



HUANG NAITEN

Primary Examiner